



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4164-1D  
 UNIQUE ID NUMBER: 9PW092  
 COMBUSTOR: Talon IIB  
 ENGINE TYPE: TF

BYPASS RATIO: 5.1  
 PRESSURE RATIO ( $\pi_{00}$ ): 31.3  
 RATED THRUST ( $F_{00}$ ) (kN): 286.9

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	3.0	29.3	52.1	7.5
AS % OF ORIGINAL LIMIT	15.2	24.8	50.7	42.1
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			63.4	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			74.8	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			84.5	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			98.8	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES  
 x DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	2.721	0.00	0.16	26.31	5.8
CLIMB OUT	85	2.2	2.239	0.00	0.17	20.97	5.1
APPROACH	30	4.0	0.775	0.06	1.55	12.10	0.2
IDLE	7	26.0	0.243	1.44	17.13	3.79	0.0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			975	556	6851	12895	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				1.9	23.9	44.9	5.8
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.8-101.4
TEMPERATURE (K)	282-285.6
ABS HUMIDITY (kg/kg)	0.00362-0.00455

### FUEL

SPEC	Jet A
H/C	1.89
AROM (%)	17

MANUFACTURER: Pratt & Whitney  
 TEST ORGANIZATION: Pratt & Whitney  
 TEST LOCATION: East Hartford, CT  
 TEST DATES: 12/05/2008-13/05/2008

### NO<sub>x</sub> REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
x	2.3.2 e) (CAEP/8)

### REMARKS

1. Talon IIB combustor with improved exit temperature profile.

Compliance with Fuel Venting requirements: x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)